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EXAMINER	
KWON, MIN S	

ART UNIT	PAPER NUMBER
2142	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,644	LANGO ET AL.	
	Examiner	Art Unit	
	Min S. Kwon	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 have been examined.

Priority

2. Acknowledgement is made of applicant's claim for priority. The application claims the benefits of U.S. Provisional Application No. 60297943, filed 6/12/2001.

Drawings

3. The drawings are objected to because of the following informalities. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the

page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance

a. On page 4, line 29 of the specification, "router 40" does not exist on the drawing.
b. On page 5, lines 1, 2 and 4 of the specification, "router 40" does not exist on the drawing.
c. On page 5, line 31 of the specification, "router 42" does not exist on the drawing.
d. On page 6, lines 4, 6, and 8 of the specification, "router 42" does not exist on the drawing.
e. On page 11, line 34 of the specification, element 270 does not exist on the drawing.
f. On page 12, lines 2, 11 and 17 of the specification, element 270 does not exist on the drawing.
g. On page 15, lines 3, 5 and 6 of the specification, element 270 does not exist.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

   Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 7 and 8-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

   a. As to claim 7, the statement "a streaming media cache including processes including" is not statutory because it is drawn to code per se and is not on a computer readable medium.

   b. Claims 8 to 13 are rejected because it is dependent on claim 7.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

   (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,366,970 to Wolff et al in view of U.S. Patent Application No. US

2001/0034786 to Baumeister et al and U.S. Patent No. 6,708,213 to Bommaiah et al.

a. As to claim 1, Wolff discloses a computer system having memory for providing streaming media in one of plurality of streaming media protocols, including:

i. A first plurality of interfaces configured to initiate reading of packet meta-data and packets of payload data from memory (col. 3, lines 55-60). The data block object that Wolff refers to includes meta-data and the actual data (col. 4, lines 31-35).

ii. A second plurality of interfaces configured to output streaming media packets to a client system at a requested pace (col. 4, lines 5-10). The ability to set bit-rate in a streaming media client is common in the art. The examiner takes official notice that setting bit-rate in a streaming media client is well known in the art. Thus, given such knowledge, a person having ordinary skill in the art would have readily recognized the desirability and advantages of streaming the media packets to a client at a requested pace in order to prevent buffer over-run or under-run and to prevent loss of packets/data, because each client may differ in the amount of bandwidth that it can utilize.

iii. Wherein the streaming media packets comprise the packet meta-data and the packets of payload data (col. 4, lines 31-35).

However, Wolff fails to disclose that the packet meta-data and the packets of payload data are determined in response to a streaming media protocol.

Baumeister teaches a method and system for streaming media data in a heterogeneous network environment where a stream server portal generates the streaming meta-data and payload data of the requested protocol and streams it to the client (page 2, [0017]; page 2, 2nd column, first 3 lines lists the different streaming media products; page 2, [0032]-[0035] describes the selection and streaming process; Fig. 4a, items 10, 20 and 30).

Providing support for multiple, proprietary streaming media format alleviates compatibility problems. It also affords the users with greater flexibility in choosing the streaming media format best suited for their needs. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wolff with the teaching of Baumeister to include the determination of packet meta-data and payload data for the explicit reasons discussed herein above.

iv. The combined teaching of Wolff and Baumeister teach substantial features of the claimed invention (discussed above), but fails to teach that the packet meta-data and the packets of payload

data are read from the memory at a pace independent of the requested pace for the streaming media packets.

Bommaiah teaches a method and apparatus for enhancing existing caching systems to better support streaming media over the Internet and other public network systems, where two processes are started concurrently to service the request for a streaming media. The first process streams the data from the helper server to the client as fast as the bandwidth allows (col. 8, lines 51-54), and the second process loads data to the helper server from its local disk, or another helper server, or the content server (col. 8, lines 58-60) as fast as the bandwidth between the helper server and these sources allows (col. 8, lines 61-65). It can be seen that the rate at which the data is streamed to the client is independent of the rate at which data is read from the memory.

The bandwidth between the client and the streaming server is often less than the bandwidth between a server and its local disk or other content servers. The requested bit-rate is only relevant from the streaming server to the client, and there is no need to boggle down the IO subsystem at the back-end, which is often the bottleneck in most applications. For example, there may be a mutual exclusion lock to a portion of a file during IO operations, and holding onto a lock for an extended period of time may be

detrimental to a system's performance when different processes may be competing for the same resources. Even if the locks are released and re-locked, there is overhead associated with it that may also hinder the performance. Thus, reading the file at a pace slower than its maximum bandwidth may be counter-productive. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teaching of Wolff and Baumeister with the teaching of Bommaiah for the explicit reasons discussed herein above.

v. Wherein the second plurality of interfaces support more than one streaming media protocol (please see item iii above).

b. As to claim 3, Wolff shows substantial features of the claimed invention but fails to teach that the streaming media protocol is selected from the group: Microsoft Media Streaming, Real Time Streaming protocol, RealNetworks RealSystem.

Baumeister teaches a method and system for streaming media where the streaming may be chosen from MicrosftNetshowServer (Mircrosft Media Streaming) and RealNetworksServer (RealNetworks RealSystem), and Real Time Streaming protocol (page 2, 2nd column, lines 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Wolff with the

teaching of Baumeister to support these streaming media protocols, because supporting multiple protocols alleviate the problems of compatibility and affords the users with greater flexibility in choosing the streaming media format best suited for their needs.

c. As to claim 4, Wolff discloses the invention substantially, as claimed, but Wolff does not explicitly state that the second plurality of interfaces is configured to output a streaming media packet at a requested time.

Nonetheless, the examiner takes official notice that fast forwarding or rewinding the streaming media to a specific point in time is well known in the art. The ability to rewind or fast forward is a de facto feature in virtually all forms of media playback. Random access of data saves time by allowing the user to choose a specific point in time of playback in a given media without having to sequentially play an entire media at the normal rate. The advantages of random access are well known in the art. For example, sequential search for an item in an array is much slower than random access into an array with a use of an index. Fast forwarding or rewinding in media playback is a natural extension of sequential file access and random file access in normal files on computer readable medium. In fact, it is true that a media file is also a normal file, readable by a computer, and thus randomly accessible. Given such knowledge, a person having ordinary skill in the art would have readily recognized the

desirability and advantages of modifying Wolff by employing the well-known feature of playing the media stream from a certain point in time. Thus, it would have been obvious to one of ordinary skill in the art to modify the teaching of Wolff to include this feature for the explicit reasons discussed herein above.

d. As to claim 5, Wolff discloses a computer system of claim 1 wherein the second plurality of interfaces outputs streaming media packets to the client system after packet meta-data and packets of payload data are read from the memory (col. 4, lines 5-12). It is understood that when data is read from the disk, it is subsequently read into memory.

e. As to claim 7, Wolff discloses a streaming media cache, substantially as claimed, including:

i. A first process thread configured to initiate reading of data chunks from a memory, and configured to indicate when data chunks have been read from the memory the data chunks including packet payloads and packet-meta data (col. 3, lines 55-60). The data block object that Wolff refers to includes meta-data and the actual data (col. 4, lines 31-35). When data chunks have been read from memory, it will be placed onto the input queue. Therefore, if the data exists in the input queue, it will mean that data has been read from memory.

ii. A second process thread configured to initiate reading of a first data object meta-data from memory, configured to determine if object meta-data for a second data object is stored in the memory (col. 3, lines 60-67; col. 4, lines 1-5). It will only be processed if all the required information for a localized stream of data is contained in a single data block (object data and object meta-data and checking for existence of data).

iii. Wolff does not explicitly disclose that it is configured to initiate retrieving data from an upstream server for storage as the second data object when the second data object is not stored in memory, and configured to indicate when the second data object has been retrieved, wherein data objects comprise a plurality of data chunks.

However, Bommaiah discloses a method and apparatus for enhancing existing caching system where data may be served from a content server (col. 7, line 67). Furthermore, it would be obvious to request data if it does not exist in memory in order to avoid data under-run.

Thus, it would have been obvious to one of ordinary kill in the art at the time of the invention to combine the teaching of Wolff with the teaching of Bommaiah for the explicit reasons discussed herein above.

iv. Wolff discloses a third process thread configured to output streaming media packets to a client via a network but does not disclose that the streaming media packets are determined in response to packet payloads and packet-meta data

However, Baumeister teaches a method and system for streaming media data in a heterogeneous network environment where a stream server portal generates the streaming meta-data and payload data of the requested protocol and streams it to the client (page 2, [0017]; page 2, 2nd column, first 3 lines lists the different streaming media products; page 2, [0032]-[0035] describes the selection and streaming process; Fig. 4a, items 10, 20 and 30).

Providing support for multiple, proprietary streaming media format alleviates compatibility problems. It also affords the users with greater flexibility in choosing the streaming media format best suited for their needs. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wolff with the teaching of Baumeister to include the determination of packet meta-data and payload data for the explicit reasons discussed herein above.

v. Wherein the third process thread outputs sreaming media packets including packet payloads from a first data chunk while the

second data chunk is read from the memory (Wolff, col. 4, lines 5-12). The threads are running asynchronously.

f. As to claim 8, Wolff discloses a streaming media cache wherein the third process thread does not modify the packet payloads (col. 4, lines 5-12). The output thread merely outputs the data.

g. As to claim 9, it is rejected for the same reason as claim 1 (the part regarding the asynchronous processing).

h. As to claim 10, Wolff, Bommaiah and Baumeister show substantial features of the claimed invention, as discussed above, but fail to explicitly disclose the upstream server is selected from the group: origin server, another streaming media cache.

However, Bommaiah discloses a system and method for enhancing existing caching systems where the HS can serve a client's request from any combination of sources including: the memory ring buffer, cache on the disk, the memory or disk of other HSs in the network, and the content server (col. 7, lines 63-67).

It would be obvious to serve data from different sources because it may be more efficient to serve data from different locations depending on the circumstances. For example, if data exists on a cache of another system whose physical proximity is closer than the origin server, it would be obvious to use the cache of another system because, in addition to the advantages of proximity, the data is already stored on memory (faster than

disk IO). However, the benefits may not outweigh the drawbacks, if, for instance, the system on which the data is cached is bogged down from too many requests (high load); and in which case, it would be advantageous to utilize the content server instead. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teaching of Wolff, Bommaiah and Baumeister to further include the teaching of Bommaiah for the explicit reasons discussed herein above.

i. As to claim 12, Wolff, Bommaiah and Baumeister show substantial features of the claimed invention but fail to explicitly disclose that there is a fourth process thread configured to receive the data from the upstream server and configured to initiate storage of the data in the memory as the second data object.

Nonetheless, the examiner takes official notice that the practice of "divide and conquer" is old and well known in the art. The use of separate modules, subroutines, threads, devices, etc. to handle specialized functionality reduces complexity, increases reusability, interoperability, and efficiency and responsiveness. The limitations recited and set forth in claim 12 have all been addressed in other claims (by claims 17 and 18). Claim 12 merely separates these functionalities into a separate process. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the feature discussed in claim 12 for the explicit reasons discussed herein above

j. As to claim 13, it is rejected for the same reason as claim 3.

k. As to claim 14, it is rejected for the same reason as claim 1.

l. As to claim 16, Wolff, Bommaiah and Baumeister show substantial features of the claimed invention, as discussed above, but fail to explicitly disclose that retrieving the second data object comprises initiating retrieval of the second data object from the disk memory after a threshold number of media packets from the first stream of media packets have been sent to the client.

However, claim 16 describes a commonly known technique in the art known as buffering. Bommaiah discloses a playout buffer and states that the use of a playout buffer is well known in the art (col. 8, lines 12-15). The playout buffer is filled before the client starts processing the information contained in it. Before the buffer is completely empty (threshold), it is filled again.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Wolff and Baumeister with the teaching disclose by Bommaiah to include the use of buffering to absorb jitter, because data can be filled faster to the buffer than can be streamed to the client (Bommaiah, col. 8, lines 14-19).

m. As to claim 17, Wolff, Bommaiah and Baumeister show features of the claimed invention, as discussed above, including the initiation of the retrieval of the second data object from the disk memory, which comprises

of requesting a stream of media packets from an upstream server (Bommaiah, col. 7, line 67 – where content server is disclosed).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teaching of Bommaiah in the combined teaching of Wolff, Bommaiah and Baumeister, as discussed above, in order to prevent data under-run.

n. As to claim 18, Wolff, Bommaiah and Baumeister show features of the claimed invention, as discussed above, including the initiation of retrieval of the second data object from the disk memory, which further comprises of receiving the stream of media packets and storing the stream of media packets as the second data object in the disk memory (Bommaiah, col. 6, lines 44-47 teaches of the content server streaming the media to the HS; col. 6, lines 52-53 teaches that the media is stored on memory or disk).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teaching of Bommaiah the combined teaching of Wolff, Bommaiah and Baumeister, as discussed above, in order to prevent the loss of data.

o. As to claim 20, it is rejected for similar reasons as claim 4, except claim 20 recites the limitation of waiting until the second data object is retrieved from the disk memory. However, it is understood that data must

first be retrieved from the disk memory before it can be sent to the client (else there is nothing to send).

p. As to claim 21, it is rejected for same reasons as claim 1.

q. As to claim 22, Wolff, Bommaiah and Baumeister disclose an apparatus wherein the first portion is also configured to direct storage of the first plurality of media data into a local memory after the first plurality of media data are retrieved from the disk memory (Wolff, col. 3, lines 55-59 – it is understood that data is subsequently read into memory after it has been read from disk), and wherein the second portion is also configured to retrieve at least a subset of the first plurality of media data from the local memory (Wolff, col. 4, lines 5-10).

r. As to claim 23, Wolff, Bommaiah and Baumeister show substantial features of the claimed invention but fail to explicitly disclose that the first portion is also configured to determine whether the second plurality of media data are stored in the disk memory.

Nonetheless, the examiner takes official notice that it is obvious to check for the existence of data. A streaming media device that sends continuous, streaming media necessarily checks for the existence of data, else it would send non-existent data. Even if it is the case that the device over-writes the existing data without checking for existence, doing so would be counter productive because it would mean extra IO (the bottleneck in a computer system) must be performed.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the feature discussed in claim 23 for the explicit reasons discussed herein above.

s. As to claim 24, Wolff, Bommaiah and Baumeister show substantial features of the claimed invention but fail to explicitly disclose that there is a third portion coupled to the first portion that is configured to request a second media data stream from an upstream streaming apparatus, and configured to receive the second media data stream; wherein the first portion is also configured to direct storage of the second plurality of media data in the disk memory, wherein the second plurality of media data are determined in response to the second media data stream; and wherein the third portion requests the second media data stream from the upstream streaming apparatus when the first portion initially determines that the second plurality of media data are not stored in the disk memory.

Nonetheless, the examiner takes official notice that the practice of "divide and conquer" is old and well known in the art. The use of separate modules, subroutines, threads, devices, etc. to handle specialized functionality reduces complexity, increases reusability, interoperability, and efficiency and responsiveness. The limitations recited and set forth in claim 24 have all been addressed in previous claims (by claims 1 and 23). Claim 24 merely separates these functionalities into a separate device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the feature discussed in claim 24 for the explicit reasons discussed herein above.

t. As to claim 26, Wolff, Baumeister and Bommaiah disclose an apparatus of claim 24 but fails to explicitly teach that the third portion comprises at least of a portion of a streaming media client selected from the group: Microsoft Media Player, RealNetworks RealPlayer, Apple Quicktime.

However, Bommaiah teaches of a streaming media device wherein the client may be selected from group: Microsoft Media Player, RealNetworks RealPlayer, Apple QuickTime (Bommaiah, page 2, 2nd column, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Wolff and Bommaiah with the teaching of Baumeister to support these streaming media clients, because supporting multiple protocols alleviate the problems of compatibility and affords the users with greater flexibility in choosing the streaming media format best suited for their needs.

u. As to claim 27, it is rejected for the same reason as claim 26.

v. As to claim 28, it is rejected for the same reason as claim 24. The process is being repeated asynchronously. First device attempts to get the data from its disk, and if it fails, another device fetches the data from the

upstream server. This process is being executed asynchronously as yet another device is streaming the fetched data to the client. Thus, the limitation recited in claim 28 is merely disclosing this cyclic process.

w. As to claim 29, Wolff disclose an apparatus wherein the second portion begins output of the first media data stream only after the first plurality of media data are stored in the disk memory (col. 4, lines 5-10).

x. As to claim 30, Wolff, Baumeister and Bommaiah disclose an apparatus of claim 28 but fails to explicitly disclose that the second portion beings output of the first media data stream before the first plurality of media data are stored on the disk memory.

However, Bommaiah discloses that the HS can serve a client's request from any combination of sources including: the memory ring buffer, cache on disk, the memory or disk of other HSs in the network, and the content server (col. 7, lines 64-67). Thus, the data does not necessarily have to be written to disk before it is streamed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include further combine the teaching of Wolff, Baumeister and Bommaiah with the teaching discussed above because avoiding disk IO reduces latency and increases performance.

8. Claims 2, 15, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff, Baumeister and Bommaiah as applied to claims 1, 3, 4, 5, 7, 8, 9, 10, 12,

13, 14, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30 above, and further in view of U.S. Patent No. 6,744,763 to Jones et al.

a. As to claim 2, Wolff, Baumeister and Bommaiah show substantial features of the claimed invention but fail to disclose a third plurality of interfaces configured to receive the packet meta-data, configured to adjust the packet meta-data to form adjusted packet meta-data, and to output the adjusted packet meta-data; wherein the streaming media packets are also determined in response to the adjusted packet meta-data.

Baumeister disclose a method and system for streaming media data in a heterogeneous network environment where the system is configured to receive the meta-data and to output the meta-data (col. 3, [0048], lines 5-8). Baumeister also disclose that the streaming media packets are determined in response to the packet meta-data (col. 3, [0048], lines 11-15 – the meta-data is generated then sent to the media player via the stream server portal. Upon receiving the meta-data, the media player invokes the stream server using information of the streaming meta-data. Thus, the media packets are determined by the meta-data). However, Baumeister teaches of a generated meta-data, but does not specifically teach an adjusted meta-data.

Jones discloses a method and apparatus for media data transmission and teaches a QuickTime file format, where the meta-data provides declarative, structural and temporal information about the actual

media data. Jones goes on to further disclose that the QuickTime file format is well suited for situations where meta-data is modified and temporal mapping information is adjusted (col. 1, lines 65-67; col. 2, lines 1-5).

If a meta-data can be created, being able to modify, update or adjust it is a logical and obvious extension. Furthermore, having an ability to adjust meta-data increases interoperability between streaming media protocols. Hence, it would have been to one of ordinary skill in the art at the time of the invention to combine the teaching of Baumeister with the teaching of Jones to include the adjusting of meta-data (i.e., temporal mapping of meta-data which indexes into a specific time range of the media).

b. As to claim 15, it is rejected for the same reason as claim 2.

c. As to claim 11, it is rejected for the same reason as claim 25 below.

d. As to claim 25, it is rejected for similar reasons as claim 2, except that the claim recites the limitation of there being a fourth portion, and a second portion configured to retrieve at least a portion of the first plurality of media data and configured to combine the first plurality of re-timed media data and the portion of the first plurality of media data to form the first media data.

Nonetheless, the examiner takes official notice that the practice of

"divide and conquer" is old and well known in the art. The use of separate modules, subroutines, threads, devices, etc. to handle specialized functionality reduces complexity, increases reusability, interoperability, and efficiency and responsiveness. Wolff discloses a processing thread which takes data blocks from the input queue and processes the block by parsing and/or modifying the data as necessary to prepare the data block for output (Wolff, col. 3, lines 61-65). Claim 2 above states that the third portion re-times and adjusts the media data. However, it would be obvious to have the second portion combine (when it is sent to the client, the two portions are necessarily combined) the re-timed, adjusted meta-data with the payload data instead, which would be a slight variation of claim 2, but nonetheless, obvious (a modularized, multi-threaded system affords great deal of flexibility in processing in terms of spatial locality [what is processed where], and temporal locality [when is it processed] depending on the needs of the system).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teaching of Wolff, Baumeister and Bommaiah to include the features re-timing of media data taught by Jones implemented in the fourth portion with the second portion combining the re-timed media data and the first plurality of media data to form the first media data stream for the explicit reasons discussed herein above.

9. Claims 6, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff, Baumeister and Bommaiah as applied to claim 1, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30 above, and further in view of U.S. Patent Application No. US 2002/0181506 A1 to Loguinov.

   a. As to claim 6, as stated in claim 3 above, the combined teaching of Wolff, Baumeister and Bommaiah teach substantial features of the claimed invention, including a system for streaming media packets, where a specific streaming media protocol is selected, but it fails to explicitly disclose that the sizes of streaming media packets output to the client system depend upon the streaming media protocol.

   However, Loguinov teaches a method and system for supporting real-time packetization of multimedia information where depending on the specific protocol in use, a packet may be of fixed or variable length (page 2, [0020], lines 7-9).

   Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teaching of Wolff, Baumeister and Bommaiah to employ the use of different packet sizes of streaming media packets depending upon the streaming media protocol because certain streaming media protocol may be better suited for certain packet sizes (certain protocol may require fixed length while others require variable length of differing length, for example).

   b. As to claim 19, it is rejected for the same reason as claim 6.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

    a. U.S. Patent Application No US 2001/0003193 A1 to Woodring et al disclose a method and system for streaming an information from a producer of N consumers in a multi-process environment.

    b. U.S. Patent No. 5,918,020 to Blackard et al disclose a data processing system and a method implementation for a unique push, or streaming, model for communicating time sensitive encoded data, such as video and audio data, in a communication network.

    c. U.S. Patent No. 5,854,887 to Kndell et al disclose a networked computer system for storing and presenting multimedia data that distributes the data among multiple storage computers, each of which supports at least one viewing station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min S. Kwon whose telephone number is (571) 272-7216. The examiner can normally be reached on 8 AM - 4:30 PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack B. Harvey can be reached on (571) 272-3896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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